IN THE CLAIMS:

Please amend the claims as follows:

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1. (currently amended) A method for producing a recombinant membrane fusion protein in an insect larvae expression system, the method comprising:

(a) ~~infection of~~ infecting insect larvae with a baculovirus vector containing ~~that has~~ a nucleic acid sequence that encodes a recombinant membrane fusion protein having ~~with~~ an affinity tag ~~wherein the recombinant membrane fusion protein is expressed in the larvae~~; ~~and~~

(b) allowing the infected larvae to develop for about 1 to 4 days post infection and express the recombinant membrane fusion protein;

(c) homogenizing the developed, infected larvae to form a homogenate;

(d) separating the homogenate into a membrane-containing portion and a soluble portion, wherein the membrane-containing portion contains the recombinant membrane fusion protein with the affinity tag;

(e) solubilizing the separated recombinant membrane fusion protein; and

(f) ~~purification of the~~ purifying the solubilized recombinant membrane fusion protein ~~from said larvae~~ by affinity chromatography.

2. (cancelled)

3. (original) The method of claim 1 wherein the affinity tag is selected from the group consisting of poly(His), avidin, biotin, antibody, streptavidin and an antigenic amino acid sequence.

4. (original) The method of claim 3 wherein the affinity tag is poly(His).

5. (cancelled)

6. (original) The method of claim 1 wherein the larvae are infected with the vector when the larvae are in the first, second, third, or fourth instar stage of development.

7. (original) The method of claim 1 wherein the larvae are in the early fourth instar stage of development.

8. (cancelled)

9. (currently amended) The method of claim ~~8~~ 1 wherein the ~~fraction is isolated from the larvae by~~ membrane-containing portion containing the recombinant membrane fusion protein with the affinity tag is separated from the soluble portion by differential and gradient centrifugation.

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10. (currently amended) The method of claim 9 further comprising isolation of the membrane-containing portion ~~fraction~~ by chromatography performed after the step of differential and gradient centrifugation.

11. (previously amended) The method of claim 1 further comprising the removal of the affinity tag from the recombinant membrane fusion protein.

12. (previously amended) The method of claim 1 wherein the recombinant membrane fusion protein is selected from the class of proteins consisting of transport, channel forming, receptor, junctional, cytoskeletal, and other membrane associated proteins.

13. (currently amended) The method of claim 12 wherein the recombinant membrane fusion protein is a transport protein.

14. (original) The method of claim 13 wherein the transport protein is NCX1 or the Na-K ATPase.

15. (currently amended) The method of claim 12 wherein the recombinant membrane fusion protein is a channel forming protein.

16. (original) The method of claim 15 wherein the channel forming protein is CFTR.

17. (currently amended) The method of claim 12 wherein the recombinant membrane fusion protein is a junctional protein.

18. (currently amended) The method of claim 17 wherein the junctional protein is connexin 32.

19. (previously amended) The method of claim 1 wherein the recombinant membrane fusion protein has biological activity substantially the same as the native form of the protein.

20. (previously amended) The method of claim 1 wherein the recombinant membrane fusion protein has substantially the same structure as the native form of the protein.

21. (currently amended) A method for identifying the physical characteristics of a recombinant membrane fusion protein ~~wherein the protein is produced by the method of claim 1~~, the process comprising:

(a) infecting insect larvae with a baculovirus vector containing a nucleic acid sequence that encodes a recombinant membrane fusion protein having an affinity tag;

(b) allowing the infected larvae to develop for about 1 to 4 days post infection and express the recombinant membrane fusion protein;

(c) homogenizing the developed, infected larvae to form a homogenate;

(d) separating the homogenate into a membrane-containing portion and a soluble portion, wherein the membrane-containing portion contains the recombinant membrane fusion protein with the affinity tag;

(e) solubilizing the separated recombinant membrane fusion protein; and

(f) purifying the solubilized recombinant membrane fusion protein from said larvae by affinity chromatography; and

(g) determining a physical characteristic of the purified recombinant membrane fusion protein.

22. (original) The method of claim 21 wherein the physical characteristics are determined by a procedure selected from the group consisting of crystallography, NMR, and CD.

23. (original) The method of claim 22 wherein the procedure is crystallography.

24. (currently amended) The method of claim 1 where the larvae is infected by injecting the larvae with ~~a~~ the baculovirus vector ~~that has a nucleic acid sequence that encodes a recombinant membrane fusion protein with an affinity tag~~.